Appl. No. 10/040,888

Response dated October 11, 2006

Reply to the Office action mailed April 11, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-36 (Canceled)

Claim 37 (Currently Amended): A polymer for use in dental restoratives wherein the polymer has a backbone structure consisting essentially of:

- a) a first monomer unit comprising acrylic acid (AA);
- b) a second monomer unit comprising maleic acid (MA); and
- c) a third monomer unit comprising a free-radical polymerizable <u>cyclic</u> vinyl amide selected from the group consisting of methacrylamide, dimethylacrylamide, isopropylacrylamide, N-vinyl-2-pyrrolidone, N-vinylcarbazole, N-vinylsuccinimide, N-vinylcaprolactam, and N-vinylimidazole; and

wherein the polymer optionally has a free-radical or visible light curable (VLC) moiety pendant to the polymer backbone.

Claim 38 (Canceled)

Claim 39 (Previously presented): The polymer of claim 38 wherein the free-radical polymerizable vinyl amide is N-vinyl-2-pyrrolidone.

Claim 40 (Previously presented): The polymer of claim 37 wherein the concentration of the free-radical polymerizable vinyl amide ranges from about 5 to about 25 mole percent.

Claim 41 (Previously presented): The polymer of claim 40 wherein the concentration of the free-radical polymerizable vinyl amide ranges from about 5 to about 10 mole percent.

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Claim 42 (Previously presented): The polymer of claim 37 wherein the free-radical or VLC moiety is selected from the group consisting of vinyl-substituted unsaturated cyclic imino ethers, 2-isocyanatoethyl methacrylate, and glycidyl methacrylate.

Claim 43 (Previously presented): A dental restorative comprising:

- a) a polymer wherein the polymer has a backbone structure comprising:
 - i) a first monomer unit comprising acrylic acid (AA);
 - ii) a second monomer unit comprising maleic acid (MA); and
 - iii) a third monomer unit comprising a free-radical polymerizable vinyl amide; and
- b) an inorganic glass powder;

wherein the dental restorative is formed when the polymer is blended with the inorganic glass powder.

Claim 44 (Previously presented): The dental restorative of claim 43 wherein the inorganic glass powder is a calcium fluoroaluminosilicate glass.

Claim 45 (Previously presented): The polymer of claim 43 wherein the free-radical polymerizable vinyl amide is selected from the group consisting of acrylamide, methacrylamide, dimethylacrylamide, isopropylacrylamide, N-vinyl-2-pyrrolidone, N-vinylcarbazole, N-vinylsuccinimide, N-vinylcarbazole, and N-vinylimidazole.

Claim 46 (Previously presented): The polymer of claim 45 wherein the free-radical polymerizable vinyl amide is N-vinyl-2-pyrrolidone.

Claim 47 (Previously presented): The polymer of claim 43 wherein the concentration of the free-radical polymerizable vinyl amide ranges from about 5 to about 25 mole percent.

Claim 48 (Previously presented): The polymer of claim 47 wherein the concentration of the free-radical polymerizable vinyl amide ranges from about 5 to about 10 mole percent.

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Claim 49 (Previously presented): The dental restorative of claim 43 further comprising a free-radical or visible light curable moiety pendant to said polymer, said free-radical or visible light curable moiety selected from the group consisting of vinyl-substituted unsaturated cyclic imino ethers, 2-isocyanatoethyl methacrylate, and glycidyl methacrylate.

Claim 50 (Previously presented): A method for preparing a polymer to be used in dental restoratives comprising:

- a) polymerizing monomers comprising:
 - i) a first monomer unit comprising acrylic acid (AA);
 - ii) a second monomer unit comprising maleic acid (MA); and
 - iii) a third monomer unit comprising a free-radical polymerizable vinyl amide; and
- b) recovering said polymer from the reaction mixture;

wherein the polymer can be blended with an inorganic glass powder to make a dental restorative.

Claim 51 (Previously presented): The polymer of claim 50 wherein the free-radical polymerizable vinyl amide is selected from the group consisting of acrylamide, methacrylamide, dimethylacrylamide, isopropylacrylamide, N-vinyl-2-pyrrolidone, N-vinylcarbazole, N-vinylsuccinimide, N-vinylcaprolactam, and N-vinylimidazole.

Claim 52 (Previously presented): The polymer of claim 51 wherein the free-radical polymerizable vinyl amide is N-vinyl-2-pyrrolidone.

Claim 53 (Previously presented): The polymer of claim 50 wherein the concentration of the free-radical polymerizable vinyl amide ranges from about 5 to about 25 mole percent.

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Claim 54 (Previously presented): The polymer of claim 53 wherein the concentration of the free-radical polymerizable vinyl amide ranges from about 5 to about 10 mole percent.

Claim 55 (Previously presented): The method of claim 50, wherein the recovered polymer is reacted with vinyl-substituted unsaturated cyclic imino ethers, 2-isocyanatoethyl methacrylate, or glycidyl methacrylate, to produce a visible light-curable polymer.